

Early Childhood Mathematics

Assessment Connect to the Classroom Using Informal Assessments

Overview

In this activity, you will collect information about what children know about a specific mathematics concept and then design a small-group activity with a focused mathematics lesson.

Objectives

To carry out the steps for implementing an authentic, formative mathematics assessment, including:

- Targeting key math topics.
- Collecting information about what children know about a specific math concept or skill.
- Analyzing information and using this information to develop a small-group lesson.

Materials

- List of Key Math Topics and Lesson Design Sheet provided in this activity.
- Manipulatives, if appropriate, for the assessment or follow-up activity.

Instructions

1. Choose a math topic to focus on.
 - Select a mathematics strand.
 - Identify the math topic you want to target within that strand.
2. Decide which specific skills or concepts you want your children to work on. (For example, in counting you might choose to focus on “how many in a set of 5 or less,” or you might want to focus on counting back from 5 to 1.)
 - Be sure to consider age-appropriateness as well as individual learning styles, temperaments, and cultural backgrounds.
3. Brainstorm ideas for a way to collect information about what children know about that math topic.
 - Consider the materials you will need for your assessment activity (e.g., objects to count, pattern blocks).
 - Consider the group structure.
 - Will you implement the activity with individual children, a small group, or a large group of children?
 - How will you record the information?
 - How will you manage the rest of the class during this time?
 - Write out your plans and ideas.

4. Try out the assessment activity with children and then review the information collected.

- What concepts do children know?
- What did children have difficulty with?
- What surprised you?
- How might you use assessment results for purposeful planning?
 - How might changing center activities support children?
 - Is there a need for individual or small-group instruction for specific children in the class?

5. Brainstorm ideas for a focused mathematics activity that will further develop or reinforce children's understanding of the concept or skill.

- Consider the materials you will need for your activity ideas.
- Consider the group structure for your lesson.
 - Will you implement the activity with a small group or a large group of children?
 - Will these children have relatively the same needs for instruction, or will you use a more heterogeneous learning group?
 - How will you manage the rest of the class during this time?

6. Write out your plans and ideas on the Lesson Design Sheet provided.

CIRCLE Tip

Lesson Ideas:

If you need help choosing a math topic or skill, setting objectives, or thinking of activity ideas, you might look to your colleagues. As explained in the *Share Ideas* pages of this course, you can use the online discussion board to ask for help, offer suggestions, and swap ideas with other early childhood teachers

List of Key Math Topics

There are many concepts or skills that you may want to focus on. Here are a few suggestions, organized by mathematics content strand.

Number and Operations

- Knowing that objects can be counted.
- Counting items with each item counted once (one-to-one correspondence).
- Knowing that the counting sequence is always the same.
- Knowing that objects can be counted in any order.
- Using ordinal terms (*first, second, third*).
- Recognizing numerals 1–9.
- Adding to or taking away objects in a set.

Geometry and Spatial Sense

- Recognizing and naming shapes.
- Putting shapes together to make new shapes.
- Using language to describe the location of objects (*under, next to, beside*).

Measurement

- Recognizing that the lengths of objects can vary.
- Recognizing that weights of objects can vary and be compared.
- Recognizing and using language to describe the passage of time.

Classification and Pattern Skills

- Sorting objects that are the same and different.
- Recognizing that data can be represented graphically.
- Recognizing and identifying patterns.

The 2008 Texas Prekindergarten Guidelines includes suggestions for instructional strategies teachers may use. This list is not intended to identify assessment activities, but reviewing this list may help you to brainstorm topics. The 2008 guidelines can be accessed at http://ritter.tea.state.tx.us/ed_init/pkguidelines/PKG_Final_100808.pdf.

Lesson Design Sheet

Math Concept(s) Targeted _____

Learning Objective(s) for the Children

Questions to Ask to Focus on the Learning Objectives

Ideas for a Focused Mathematics Activity

Materials:

Activity Ideas:
